

Patent  
Attorney File No. 612,406-022  
[formerly Docket No. 271/145]

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

MICULKA et al.

Serial No. 09/509,051

Filed: June 8, 2000

For: ADDRESSABLE MODULAR  
RECOGNITION SYSTEM, ITS  
PRODUCTION AND USE

Group Art Unit: 1641

Examiner: K. Padmanabhan

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97–1.98, information relating to the above-identified application is hereby disclosed. The accompanying Form PTO-1449 provides a listing of documents that may be relevant to the subject application.

It is requested that the Examiner fully consider the art cited in the accompanying Form 1449, initial the left-most column of the form adjacent each cited reference, and return a copy for Applicants' records. It is further requested that the art be cited on the cover of any patent issuing from the subject application.

CERTIFICATE OF MAILING UNDER 37 CFR 1.8

I hereby certify that this document (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, Washington, D.C., 20231.

Date: March 26, 2003

Sent by: Cynthia B. Pacheco

Signature: Cynthia B. Pacheco

In accordance with §1.97(c), this Information Disclosure Statement is being filed after the period set forth in §1.97(b) above, but before the mailing date of either a Final Action under §1.113 or a Notice of Allowance under §1.311. Accordingly, the fee of \$180.00 as set forth in §1.17(p) is attached.

Copies of each of the references listed on the attached Form PTO-1449 are enclosed herewith.

References AJ, AK, AL, AM, AN, AO, and BJ are in a language other than the English language. A concise explanation of relevance is given below.

**Reference AJ** -- DE 19516179 – equivalent of WO 96/35121 (in English)

**Reference AK** -- DE 4216696 C2 - Claimed is (A) a sensitive method for immunoassays or assays based on complementary interaction by (a) quick and repetitive measurements of electric current or fluorescence, and (b) double measurements either in at least two measuring zones or by internal calibration of the system using stable redox or IR-fluorescence-labelled analytes followed by comparison of the two measurements obt'd. Also claimed is an appts. for performing (A) wherein the analytes recognising complementary mols. (antibodies (ABs), receptors, DNA-fragments) are immobilised at special surfaces. USE/ADVANTAGE - The new method is used in the detection of binding pairs such as in immunoassays. This method is simpler, faster, more correct, cheaper and more sensitive than known methods such as ELISAs RIAs or EIAs.

**Reference AL** -- DE 19741716 -- equivalent of WO 99/15893

The invention concerns a recognition system comprising (a) at least an immobilized binding constituent A and at least a binding site for the recognizing species B and (b) at least a recognizing species B capable of being fixed on the constituent A and at least a binding site for a substrate S, the binding of constituent A on the recognition species B intervening in the form of a molecular pairing system.

**Reference AM** -- DE 19703718 - Dendrimers (I) having specific receptors and/or ligands (II) bound to their surfaces are new.

**Reference AN** -- DE 19612356 - Process for detection of nucleic acids by means of hybridisation with a complementary nucleic acid probe through a ligand chemically bonded to the nucleic acid or the nucleic acid probe, is new. The process is characterised in that one of the hybridisation partners is bound to a solid support. Substances that bind with high affinity to a macromolecular binder are selected as ligands, and the binder is chemically coupled to detection beads that are optically detectable.

**Reference AO** -- DE 3513168 - This invention introduces a new class of devices for detecting the presence of biological molecules. The construction principle of the device involves the direct introduction of small monomers of macromolecules into the surface layer of a semiconductor, for example by doping at the gate-area of a field effect transistor (or any other similar suitable electronic device, also on carbon basis). There are a few biological monomers which pair

specifically enough for a selective measurement, such as nucleotides (or portions thereof, e.g. adenine, thymine, guanine, cytosine and uracil). This invention leads to substantial improvement of biosensors, as there should be: Better signal to noise ratio, and options for: reading of nucleotide sequences, better process control, and new synthesis possibilities (e.g. modified Merrifield Synthesis). The invention also offers the potential to construct cybernetic systems and true biochips.

**Reference AX** -- EP 0655136 -- related to USP 5,849,480

**Reference AY** -- JP 03151900 -- English translation enclosed

**Reference AZ** -- JP 07174760 -- English translation enclosed

**Reference BJ** -- WO 98/40740 - Providing an assay method capable of simultaneously determining the presence or absence of one or more species of biological substances or assaying the amounts thereof with a single assay device, a kit therefor and an assay device thereof. The amount thereof or the presence thereof is detected, by putting a liquid sample containing one or more species of analytes in contact to a reagent including one or more species of marker-labeled ligands and one or more species of nucleic acid-labeled ligands, to generate one or more species of complexes, developing the generated one or more species of complexes through capillary phenomenon in developing element 11 in a sheet form, capturing the complexes through complementary nucleic acid binding onto anti-bond elements consisting of nucleic acids on detection zones 15, 16 and 17 formed depending on each of one or more species of nucleic acids

immobilized on the detection zone 14, thereby capturing a complex depending on the analyte species, through the complementary binding between the anti-bond element and the bond element, to form an independent band and to assay the amount or the presence on the detection part.

This statement should not be construed as a representation that more material information does not exist or that an exhaustive search of the relevant art has been made. Nor does this statement constitute an admission by Applicants or Applicants' agent that the information provided herein is necessarily prior art to Applicants' invention. Moreover, Applicants reserve the right to establish the patentability of the claimed invention over any of the listed documents should they be applied there-against as references. Please charge any deficiency or credit any overpayment to Deposit Account No. 50-0639.

Respectfully submitted,

O'MELVENY & MYERS LLP

Dated: March 26, 2003

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PATENT TRADEMARK OFFICE

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LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S  
INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

612,406-022  
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SERIAL NO.

09/509,051

APPLICANT:

Christian Miculka et al.

FILING DATE:

September 21, 1997

GROUP:

1641

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	AA	6,458,533	10/2002	Felder et al.			
	AB	6,221,581	04/2001	Engelhardt et al.			
	AC	6,027,879	02/2000	Lucas et al.			
	AD	5,763,175	06/1998	Brenner			
	AE	5,349,203	09/1994	Hanazato et al.			
	AF	5,342,692	08/1994	Ribi			
	AG	5,288,609	02/1994	Engelhardt et al.			
	AH	5,087,952	02/1992	Ribi			
	AI	4,777,019	10/1988	Dandekar			
		5,849,480	12/1998	Cros et al.			

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION	
							YES	NO
	AJ	19516179 C1	11/1996	Germany				
	AK	4216696 C2	10/1993	Germany				
	AL	19741716	03/1999	Germany				
	AM	19703718 A1	07/1997	Germany				
	AN	19612356 A1	10/1997	Germany				
	AO	3513168 A1	10/1986	Germany				
	AP	2266182 A	10/1993	Great Britain				
	AQ	0159719	06/1993	Europe				
	AR	0305145	03/1989	Europe				
	AS	0781853 A2	07/1997	Europe				

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DATE CONSIDERED:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

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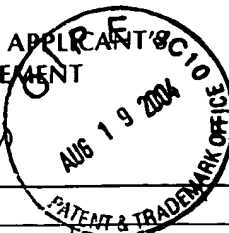
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	AT	0779934	04/2000	Europe				
	AU	0749581	12/1998	Europe				
	AV	0491059 A1	06/1992	Europe				
	AW	0698792	02/1996	Europe				
	AX	0655136	05/1999	Europe				
	AY	03151900	06/1991	Japan			X	
	AZ	07174760	07/1995	Japan			X	
	BA	WO 02/83894	10/2002	PCT				
	BB	WO 98/26288	06/1998	PCT				
	BC	WO 01/27328	04/2001	PCT				
	BD	WO 00/58516	10/2000	PCT				
	BE	WO 00/56927	09/2000	PCT				
	BF	WO 00/53311	09/2000	PCT				
	BG	WO 00/47767	08/2000	PCT				
	BH	WO 00/40755	07/2000	PCT				
	BI	WO 99/45142	09/1999	PCT				
	BJ	WO 98/40740	09/1998	PCT				
	BK	WO 97/32999	09/1997	PCT				
	BL	WO 97/31256	08/1997	PCT				
	BM	WO 96/18903 A1	06/1996	PCT				
	BN	WO 96/06948	03/1996	PCT				
	BO	WO 95/24649	09/1995	PCT				
	BP	WO 95/20320	08/1995	PCT				
	BQ	WO 94/20589 A2	09/1994	PCT				

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	BR	WO 94/05394 A1	03/1994	PCT				
	BS	WO 93/13225	07/1993	PCT				
	BT	WO 93/13223	08/1993	PCT				
	BU	WO 93/25563	12/1993	PCT				
	BV	WO 86/07387	12/1986	PCT				
	BW	WO 99/15893	04/1999	PCT				
	BX	WO 96/35121	11/1996	PCT		/		

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

BY	HANAZATO, Yoshio et al. "Integrated Multi-Biosensors Based on an Ion-Sensitive Field-Effect Transistor Using Photolithographic Techniques." IEEE TRANSACTIONS ON ELECTRON DEVICES 36(7): 1303-10 (1989)
BZ	KEMENY, D.M. "ELISA, Anwendung des Enzyme Linked Immunosorbent Assay biologisch/medizinischen Labor." Gustav Fischer Verlag, Stuttgart, u.a. 23-49 (1994)
CA	MATTHEWS, Jayne A. and KRICKA, Larry J. "Analytical Strategies for the Use of DNA Probes." ANALYTICAL BIOCHEMISTRY 169: 1-25 (1988)

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